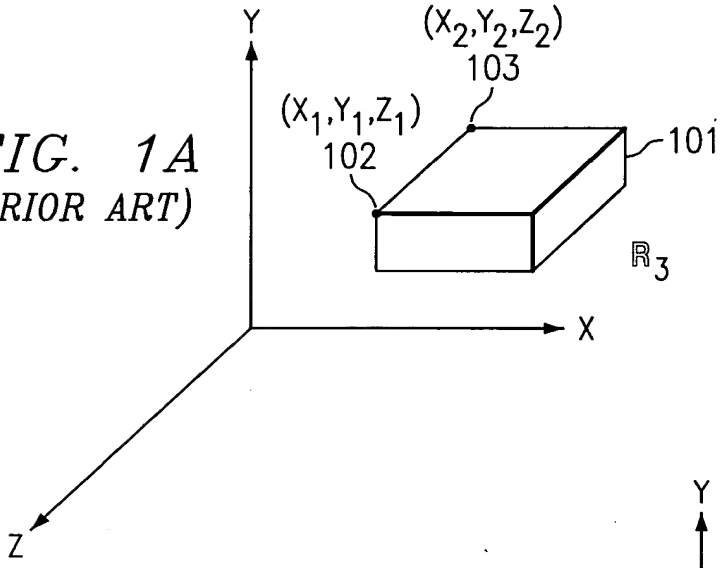


FIG. 1A
(PRIOR ART)

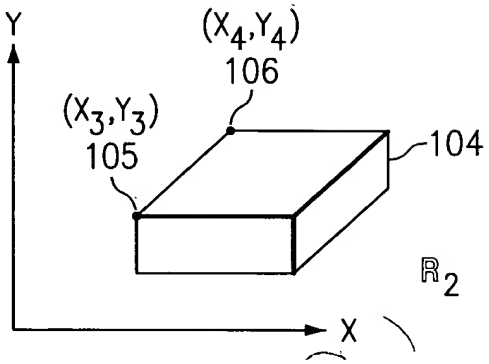


FIG. 1B
(PRIOR ART)

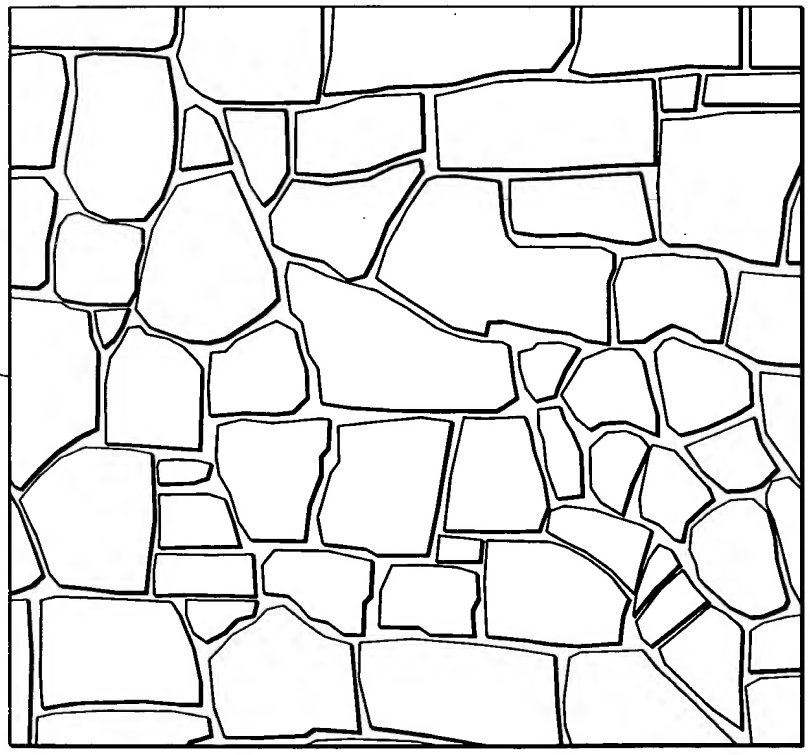


FIG. 2
(PRIOR ART)

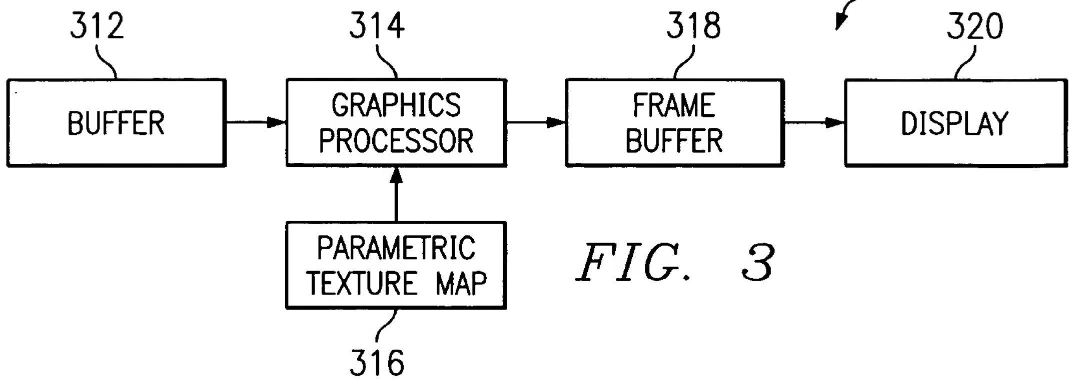


FIG. 3

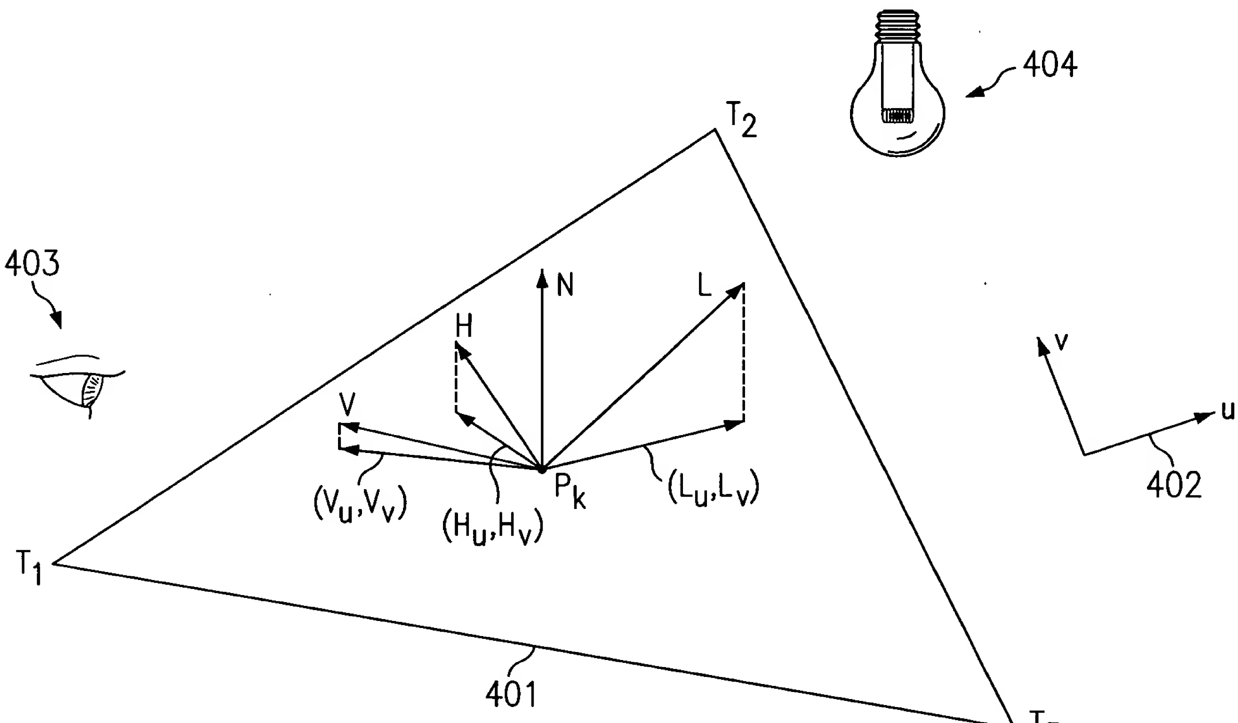


FIG. 4

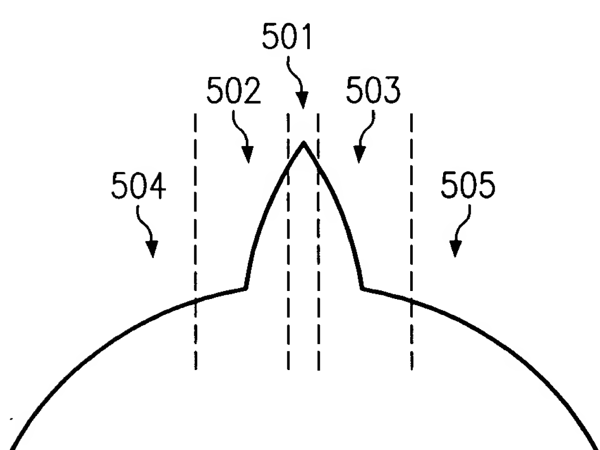


FIG. 5

FIG. 6

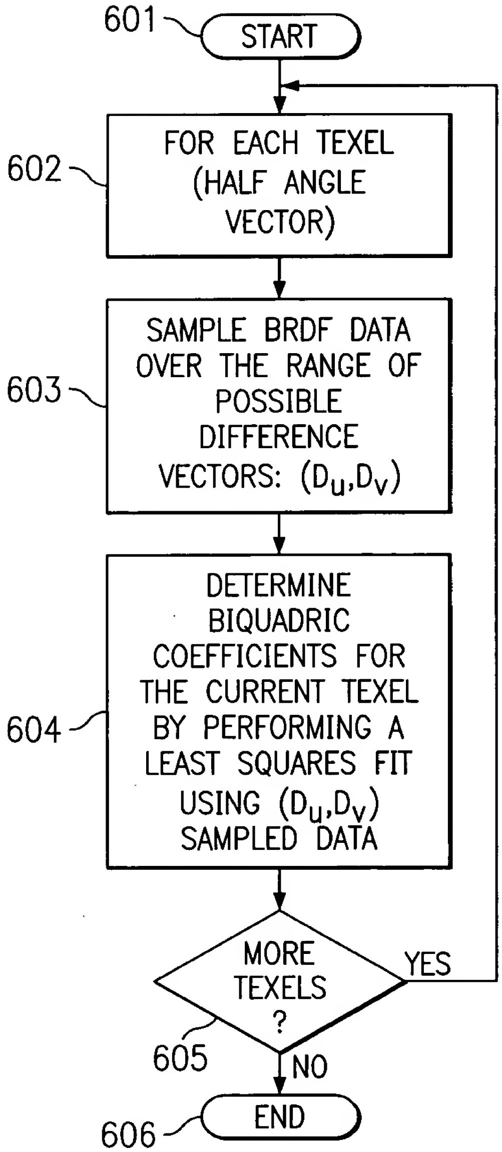
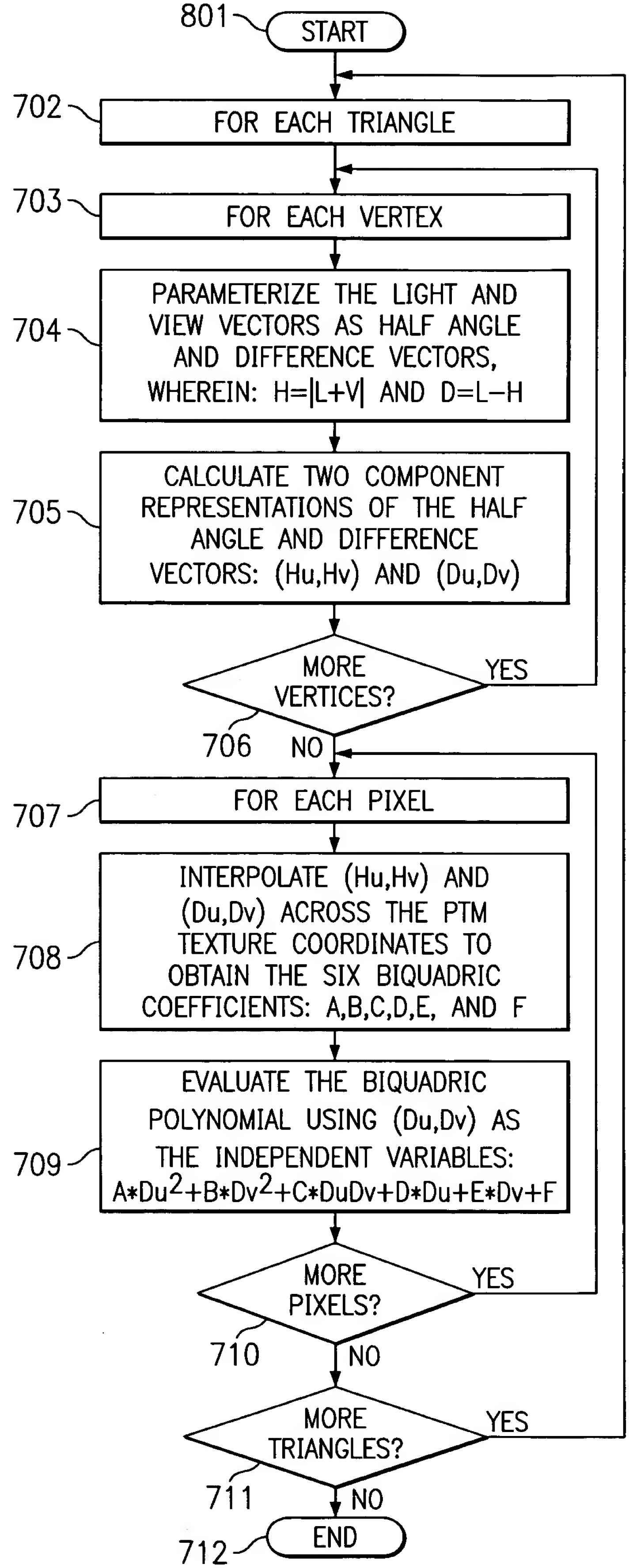

601
START
602
FOR EACH TEXEL (HALF ANGLE VECTOR)
603
SAMPLE BRDF DATA OVER THE RANGE OF POSSIBLE DIFFERENCE VECTORS: (D_u,D_v)
604
DETERMINE BIQUADRIC COEFFICIENTS FOR THE CURRENT TEXEL BY PERFORMING A LEAST SQUARES FIT USING (D_u,D_v) SAMPLED DATA
605
MORE TEXELS ?
YES
NO
606
END

FIG. 7


801
START
702
FOR EACH TRIANGLE
703
FOR EACH VERTEX
704
PARAMETERIZE THE LIGHT AND VIEW VECTORS AS HALF ANGLE AND DIFFERENCE VECTORS, WHEREIN: H=|L+V| AND D=L−H
705
CALCULATE TWO COMPONENT REPRESENTATIONS OF THE HALF ANGLE AND DIFFERENCE VECTORS: (Hu,Hv) AND (Du,Dv)
706
MORE VERTICES?
YES
NO
707
FOR EACH PIXEL
708
INTERPOLATE (Hu,Hv) AND (Du,Dv) ACROSS THE PTM TEXTURE COORDINATES TO OBTAIN THE SIX BIQUADRIC COEFFICIENTS: A,B,C,D,E, AND F
709
EVALUATE THE BIQUADRIC POLYNOMIAL USING (Du,Dv) AS THE INDEPENDENT VARIABLES: $A*Du^2+B*Dv^2+C*DuDv+D*Du+E*Dv+F$
710
MORE PIXELS?
YES
NO
711
MORE TRIANGLES?
YES
NO
712
END